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March 31, 1997

Mr. William F. Caton
Acting Secretary
Federal Communications Commission
Washington, DC 20554

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MAR 31 1997

Re: CC Docket No. 92-256 (GTE ONA)

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY

Dear Mr. Caton:

Enclosed is the semi-annual report on the application of ONA and Non-Discrimination Safeguards for the GTE Telephone Operating Companies filed pursuant to the Commission's Memorandum Opinion and Order in CC Docket No. 92-256 released June 29, 1995 (11 FCC Rcd 1388). This report covers:

(1) A matrix of GTE ONA services and state and federal tariffs.

Attachment A reflects this matrix. Some services, which are blank on the matrix, are available outside of the tariff (i.e. contracts, ICB, concurrences in other tariffs, etc.) due to individual state regulatory guidelines.

(2) An ONA Services User Guide

The user guide was developed to be similar to the BOC User Guides. It contains three sections; 1) ONA Services Descriptions and cross references; 2) Tariff References; and 3) Wire Center Deployment. Attachment B is a printed copy of GTE's ONA Services User Guide. This information is also provided on the enclosed diskettes.

(3) Updates on ESP service requests, GTE's responses to such requests, and information on services offered in response to such requests.

Attachment C reflects the GTE ONA services that meet a number of the 118 network capability requests made to the BOCs by ESPs. GTE has not had any interest expressed from ESPs on any of the outstanding BOC service requests where there is no current GTE ONA service offering.

Sincerely,


F. Gordon Maxson
Director-Regulatory Affairs

C: Policy & Program Planning Division

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Attachment A

Attachment B

GTE Telephone Operations

Services Descriptions
ONA Services User Guide

ONA Services

Names, Descriptions, Cross References

FOREWORD

Attached is the Services Descriptions section of the ONA Services User Guide.

The Services Descriptions section of the ONA Services User Guide represents an industry agreement for uniform names and technical descriptions of the Basic Serving Arrangements (BSAs), Basic Service Elements (BSEs) and Complementary Network Services (CNS) that relate to the ESP requests. For each service listed, a table is provided that gives an indication of the GTE product name, and whether GTE classifies the service as a BSA, BSE or CNS.

The BSAs are listed in the following four categories of Basic Serving Arrangements:

- o Circuit Switched Serving Arrangements
A circuit switched basic serving arrangement (BSA) provides an enhanced service provider (ESP) with a connection to the circuit switched network.
- o Packet Switched Serving Arrangements
A packet switched BSA provides an ESP with a connection to the packet switched network.
- o Dedicated Serving Arrangements
A dedicated BSA provides an ESP with a dedicated point-to-point connection through the network.
- o Dedicated Network Access Link Serving Arrangements
A dedicated network access link (DNAL) BSA provides a dedicated data channel between the ESP's termination and a designated central office which contains the specific features required by the ESP. The DNAL is used to transmit control information from the ESP to the network or to deliver information from the network to the ESP.

Following the BSAs are the BSEs and CNS, which are listed in alphabetical order in the above four BSA categories.. A description of each BSE or CNS is provided, which includes a brief technical description and a table listing the product name.

Appendix 1 contains a set of descriptions of ONA services that are offered by GTE and may not be offered by other local exchange carriers. Included is a technical description and a table with the product name for the service.

This report does not supersede any information provided in GTE's ONA plan. All capabilities described are not available in all switching or transmission systems. Generic descriptions are intended for informational purposes and their existence does not imply that specific products and/or services are necessarily tariffed and/or available in any or all state/federal jurisdictions within GTE's service area. The BSAs, BSEs and CNSs identified in this report cannot be ordered until appropriate tariffs are effective. Some ONA services may not be tariffed in all areas.

References to switching system generics that have not yet been released by the vendors are based on our current information about which features are planned for inclusion in those generic releases. If the vendors change the availability of any features for future generic releases that are referenced in this document, the availability of some services may be affected.

Technical references that are publicly available are listed for each service, where available. Ordering information for each of the technical references may be found in the *Bellcore Digest of Technical Information*. To order, call 1-800-521-2673 toll free from anywhere in the USA.; call (908) 699-5800 for foreign calls; fax (908) 336-2559.

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BSA Descriptions

BSAs have been arranged into four categories:

1. Circuit Switched
2. Packet Switched
3. Dedicated
4. Dedicated Network Access Link

Each category may have several types. Following are descriptions of the BSA categories and the associated BSA types.

BSA Descriptions

1. Category 1 - Circuit Switched BSA

A circuit switched basic serving arrangement (BSA) provides an enhanced service provider (ESP) with a connection to the circuit switched network. This BSA is capable of supporting analog signals of approximately 300 to 3000 Hz or a circuit switched digital interface with a call type of digital encoded voice, 3.1 kHz or 7 kHz audio, 56 kbps or 64 kbps data transmission.

This BSA may also transmit voice grade analog data. The transmission interface may be 2-wire or 4-wire, or derived from a variety of multiplexing alternatives (for example, Digital Signal (DS) level 0 from DS level 1, or DS1 from DS3).

This BSA may support one-way or two-way directionality. Calls are set up and taken down on a call by call basis. The transport/usage element could be intra-office or inter-office.

Route diversity may be available with this serving arrangement.

1.1 Category 1, Type A - Circuit Switched Line BSA

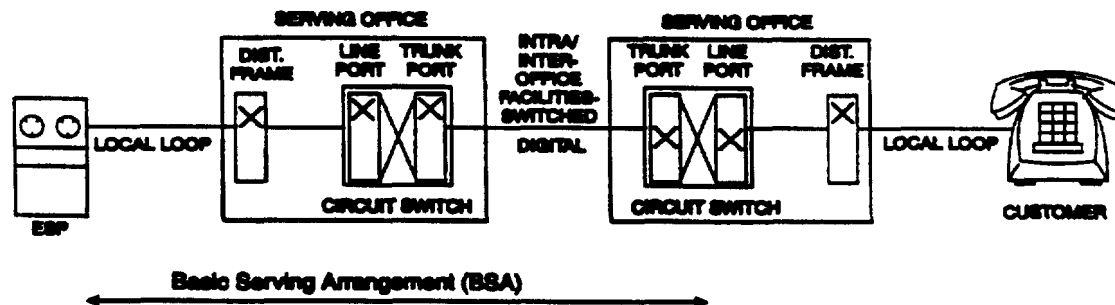
A circuit switched line BSA provides an ESP with a line side connection to the circuit switched network.

This line side connection could include alternative types of network connection, address and supervisory in-band or out-of-band signaling. Examples of network connections are standard telephone line or a line side type connection (e.g., PBX service). This BSA may support one-way or two-way directionality on a 2-wire or 4-wire transmission interface.

Calls are set up and taken down on a call by call basis. The calling scope may include, for example, an entire Local Access and Transport Area (LATA), a market area or be limited to all or part of a metropolitan area. Directory numbers are assigned from the North American Numbering Plan without any special routing or other use of the number.

Generic Name of BSA	GTE BSA Name
Category 1, Type A - Circuit Switched Line BSA	BSA-A

Voice Grade – Line – Circuit Switched – BSA



Alternatives:

An alternative is an item that must be selected for the BSA to be technically meaningful. Alternative items may be available from some or all of the Local Exchange Carriers (LECs). Refer to the individual LEC tariff reference diskette for the reference information where LEC defined alternatives may be found. Examples of potential alternatives may be: Service Code Denial and Uniform Call Distribution.

Signaling:

Signaling arrangements extend line circuit or signaling circuit alerting information on metallic or fiber facilities from one customer premises location to another customer premises location. The signaling arrangement can be terminated on trunk-like or line side interfaces of the LEC switch. Examples of address signaling on an analog interface are dial pulse or dual tone multifrequency (DTMF) with supervisory signaling of loop start or ground start. A digital interface will offer address and supervisory signaling via an out-of-band standardized protocol.

Transmission:

The subject of transmission covers a broad range of performance considerations related to the physical facilities that compose network architecture. Transmission parameters are designed to provide objective transmission performance characteristics, as perceived by the end user and LEC, between the point of termination. Transmission parameters are defined for each Network Interface (see below) supporting this BSA. These parameters are defined in the reference documentation.

Network Interfaces:

The electrical and physical interface with the LEC is described by a Network Channel Interface (NCI) code for each end user termination and each service provider termination. NCI codes are provided to aid the user in understanding the relationship of the network interface to the electrical or optical characteristics of the interface. NCI codes have four basic components: (1) number of conductors (wire or fibers), (2) protocol code, (3) nominal reference impedance code, and (4) any applicable protocol options.

References:

- o TR-NWT-000334, Switched Access Service: Transmission Parameter Limits and Interface Combinations, Issue 3, March 1993

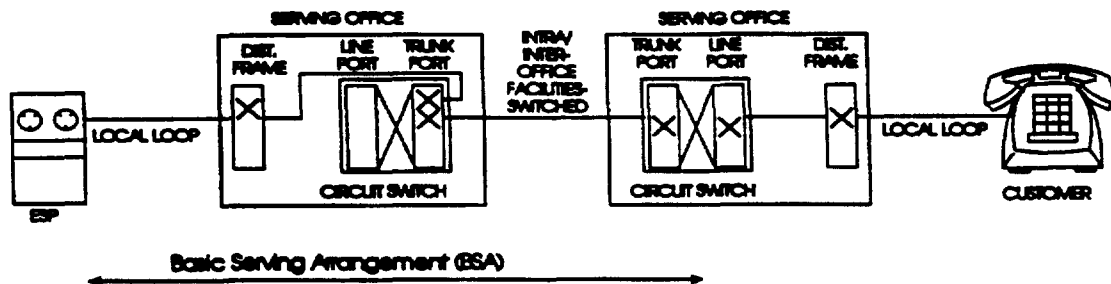
1.2 Category 1 - Circuit Switched Trunk BSA

A circuit switched trunk BSA provides an enhanced service provider (ESP) with a trunk side connection to the circuit switched network.

Various types of network connections, address signaling and supervisory signaling are available. An example of network connections to the serving office may be direct trunk or a tandem connection. Calls are set up and taken down on a call-by-call basis. Different access arrangements, based on the North American Numbering Plan, are available from the Local Exchange Carriers (LEC). This BSA may support one-way or two-way directionality.

Generic Name of BSA	GTE BSA Name
Category 1, Type B - Circuit Switched Trunk BSA	BSA-B BSA-C BSA-D

Voice Grade - Trunk - Circuit Switched — BSA



Alternative:

An alternative is an item that must be selected for the BSA to be technically meaningful. Alternative items may be available from some or all of the LECs. Refer to the individual LEC tariff reference diskette for the reference information where LEC defined alternatives may be found. Examples of potential alternatives may be: Service Class Routing, Dial Pulse Address Signaling, and Cut Through.

Signaling:

Signaling arrangements extend trunk circuit or signaling circuit alerting information on metallic or fiber facilities from one customer premises location to another customer premises location. These signals are the means by which the end user initiates a request for service, holds a connection or releases a connection. The signaling arrangements can be terminated on line-like or trunk side interfaces of the LEC switch. Examples of point-of-termination supervisory signaling arrangements that may be ordered are Multi-Frequency

(in-band), Signaling System 7 (SS7) (out of band), reverse battery and E&M.

Transmission:

The subject of transmission covers a broad range of performance considerations related to the physical facilities that compose network architecture. Transmission parameters are designed to provide objective transmission performance characteristics, as perceived by the end user and LEC, between the point of termination. Transmission parameters are defined for each Network Interface (see below) supporting this BSA. These parameters are defined in the reference documentation.

Network Interfaces:

The electrical and physical interface with the LEC is described by a Network Channel Interface (NCI) code for each end user termination and each service provider termination. NCI codes are provided to aid the user in understanding the relationship of the network interface to the electrical or optical characteristics of the interface. NCI codes have four basic components: (1) number of conductors (wire or fibers), (2) protocol code, (3) nominal reference impedance code, and (4) any applicable protocol options.

References:

- o TR-NWT-000334, Switched Access Service: Transmission Parameter Limits and Interface Combinations, Issue 3, March 1993
- o TR-TSY-000698 Feature Group B FSD 20-24-0300, Issue 1, June 1989, Rev. 1, July 1990
- o LSSGR (FR-NWT-000064), FSD 20-24-0000, IC/INC Interconnection, Issue 1, March 1991, Module TR-TSY-000690
- o TR-NPL-000258 Compatibility Information for Feature Group D Switched Access Service, Issue 1, October 1985.
- o SR-NPL-001321 Connection Setup Time for Feature Group D and Termination Feature Group B, Special Report, Issue 1, February 1989.

References for SS7:

- o TR-TSV-000905 Common Channel Signaling (CCS) Network Interface Specification, Issue 1, August 1989
- o TR-NWT-000394 Switching System Generic Requirements for Interexchange Carrier Interconnection Using the Integrated Services Digital Network User Part (ISDNUP), Issue 4, December 1992

References for Signaling Arrangements:

- o TA-NPL-000912 Compatibility Information for Telephone Exchange Service, Issue 1, February 1989.
- o SR-TSV-002275 BOC Notes on the Networks - 1990, Issue 1, March 1991.

2. Category 2 - Packet Switched Basic Serving Arrangement

A packet switched BSA provides an ESP with a connection to the packet switched network via virtual and permanent virtual circuit connections. This BSA is capable of supporting analog or digital signals of various transmission rates. The transmission interface may be 2-wire or 4-wire, or derived from a variety of multiplexing alternatives (for example, Digital Signal (DS) level 0 from DS level 1, or DS1 from DS3).

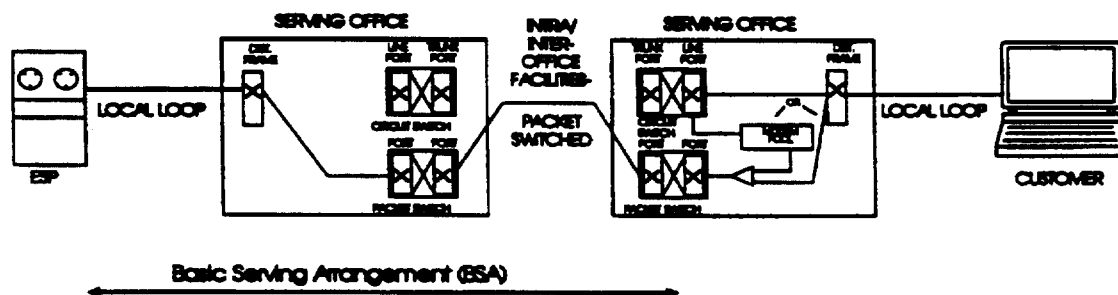
2.1 Category 2, Type A - X.25 Packet Switched BSA

The Type A Packet Switched BSA provides an ESP with X.25 or X.31 access to the GTE packet switching network via virtual and permanent virtual circuit connections. This interface conforms to Recommendations X.25 and X.31 of the International Telecommunication Union-Telecommunication Standardization Sector (ITU-TS) (formerly the International Telegraph and Telephone Consultative Committee [CCITT]).

X.25 includes physical, link and packet level procedures. At the physical level, data signaling rates of 1.2, 2.4, 4.8, 9.6 and 56 kbps are supported. The link level protocol supported at the interface is Link Access Protocol Balanced (LAPB). The main functions of the link level protocol are to ensure that the packets cross the Data Terminal Equipment/Data Communications Equipment (DTE/DCE) interface essentially error free and reach their destination in a correctly transmitted sequence. The network level access protocol provides the procedures required to set up, maintain and clear virtual calls. X.31 defines the recommended procedures for using Q.931 protocol to establish digital customer premises equipment (CPE) calls to a packet network in accordance with defined bearer services.

Generic Name of BSA	GTE BSA Name
Category 2, Type A - X.25 Packet Switched BSA	Packet Switching Network Service - X.25

Packet Switching BSA



Alternatives:

An alternative is an item that must be selected for the BSA to be technically meaningful. Alternative items may be available from some or all of the Local Exchange Carriers (LECs). Refer to the individual LEC tariff

reference diskette for the reference information where LEC defined alternatives may be found. Examples of potential alternatives may be: Logical Channel, Flow Control Parameters, and Multiple Network Addresses.

Signaling:

Signaling arrangements extend alerting information on metallic or fiber facilities from one customer premises location to another customer premises location. Dial (circuit-switched) access provides low- to moderate-throughput Public Packet Switched Network (PPSN) access through the voice telephone network. With dial-in access, a customer terminal and modem are attached to the Public Switched Telephone Network (PSTN) loop. The customer dials a North American Numbering Plan (NANP) address and the PSTN routes the call to a PPSN dial-up port. The PPSN answers the call with a modem supporting one of several modem protocols.

With dial-out access, a call is routed to a PPSN interface supporting dial-out service. At this interface, the access concentrator obtains the NANP address and uses the ITU-TS (formerly CCITT) V.25 calling procedures to instruct the PPSN modem to establish a physical connection with the customer via the PSTN. Dedicated (nonswitched) access provides the customer with continuously available interfaces to the PPSN.

Transmission:

The subject of transmission covers a broad range of performance considerations related to the physical facilities that compose network architecture. Transmission parameters are designed to provide objective transmission performance characteristics, as perceived by the end user and LEC, between the point of termination. Transmission parameters are defined for each Network Interface (see below) supporting this BSA. These parameters are defined in the reference documentation.

Network Interfaces:

The electrical and physical interface with the LEC is described by a Network Channel Interface (NCI) code for each end user termination and each service provider termination. NCI codes are provided to aid the user in understanding the relationship of the network interface to the electrical or optical characteristics of the interface. NCI codes have four basic components: (1) number of conductors (wire or fibers), (2) protocol code, (3) nominal reference impedance code, and (4) any applicable protocol options.

References:

- o PPSNGR TR-TSY-301 Public Packet Switched Network Generic Requirements, Issue 2, December 1988, Bulletin 1, December 1989, Supplement 1, May 1990, Revision 1, May 1992
- o TR-TSY-000462 Public Packet Switched Network (PPSN) X.25 Interface Description, Issue 1, June 1987
- o TR-NPL-000011 Asynchronous Terminal and Host Interface Reference, Issue 1, March 1985

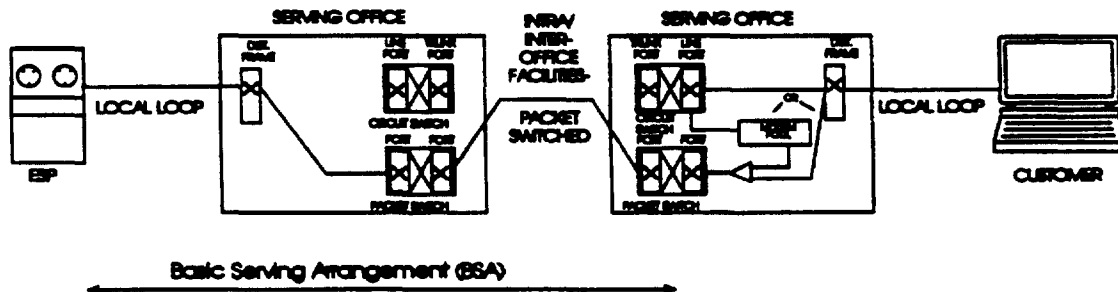
2.2 Category 2, Type B - X.75 Packet Switched BSA

The Type B Packet Switched BSA provides an ESP with X.75 access to the GTE packet switching network. The X.75 interface conforms to Recommendation X.75 of the International Telecommunication Union-Telecommunication Standardization Sector (ITU-TS) (formerly the International Telegraph and Telephone Consultative Committee [CCITT]).

X.75 includes physical, link and packet level procedures. At the physical level data signaling rates of 9.6 kbps are supported over analog or digital facilities. Speeds of 56 kbps are supported over digital facilities only. The link level protocol supported at the interface is Link Access Protocol Balanced (LAPB). The main functions of the link level protocol are to ensure that the packets cross the network interface essentially error free and reach their destination in a correctly transmitted sequence. The network level access protocol provides the procedures required to set up, maintain and clear virtual calls.

Generic Name of BSA	GTE BSA Name
Category 2, Type B - X.75 Packet Switched BSA	Packet Switching Network Service - X.75

Packet Switching BSA



Alternatives:

An alternative is an item that must be selected for the BSA to be technically meaningful. Alternative items may be available from some or all of the Local Exchange Carriers (LECs). Refer to the individual LEC tariff reference diskette for the reference information where LEC defined alternatives may be found. Examples of potential alternatives may be: Logical Channel, Flow Control Parameters, and Multiple Network Addresses.

Signaling:

Signaling arrangements extend alerting information on metallic or fiber facilities from one customer premises location to another customer premises location. Dial (circuit-switched) access provides low- to moderate-throughput Public Packet Switched Network (PPSN) access through the voice telephone network. With dial-in access, a customer terminal and modem are attached to the Public Switched Telephone Network

(PSTN) loop. The customer dials a North American Numbering Plan (NANP) address and the PSTN routes the call to a PPSN dial-up port. The PPSN answers the call with a modem supporting one of several modem protocols.

With dial-out access, a call is routed to a PPSN interface supporting dial-out service. At this interface, the access concentrator obtains the NANP address and uses the ITU-TS (formerly CCITT) V.25 calling procedures to instruct the PPSN modem to establish a physical connection with the customer via the PSTN. Dedicated (nonswitched) access provides the customer with continuously available interfaces to the PPSN.

Transmission:

The subject of transmission covers a broad range of performance considerations related to the physical facilities that compose network architecture.

Transmission parameters are designed to provide objective transmission performance characteristics, as perceived by the end user and LEC, between the point of termination. Transmission parameters are defined for each Network Interface (see below) supporting this BSA. These parameters are defined in the reference documentation.

Network Interfaces:

The electrical and physical interface with the LEC is described by a Network Channel Interface (NCI) code for each end user termination and each service provider termination. NCI codes are provided to aid the user in understanding the relationship of the network interface to the electrical or optical characteristics of the interface. NCI codes have four basic components: (1) number of conductors (wire or fibers), (2) protocol code, (3) nominal reference impedance code, and (4) any applicable protocol options.

References:

- o PPSNGR TR-TSY-301 Public Packet Switched Network Generic Requirements, Issue 2, December 1988, Bulletin 1, December 1989, Supplement 1, May 1990, Revision 1, May 1992
- o TR-NPL-000011 Asynchronous Terminal and Host Interface Reference, Issue 1, March 1985
- o TR-TSY-000461 X.75 Interfaces to BOC/IDC Network, Issue 1, June 1987

3. Category 3 - Dedicated Basic Serving Arrangement

A dedicated BSA provides an ESP with a dedicated point-to-point connection through the network. This category of serving arrangements are available full-time so that individual calls are not set up and taken down. This BSA is capable of supporting analog or digital signals at various transmission rates.

The transmission interface may be 2-wire or 4-wire, or derived from a variety of multiplexing alternatives (for example, Digital Signal (DS) level 0 from DS level 1, or DS1 from DS3). It is also capable of providing supervisory signaling in some configurations.

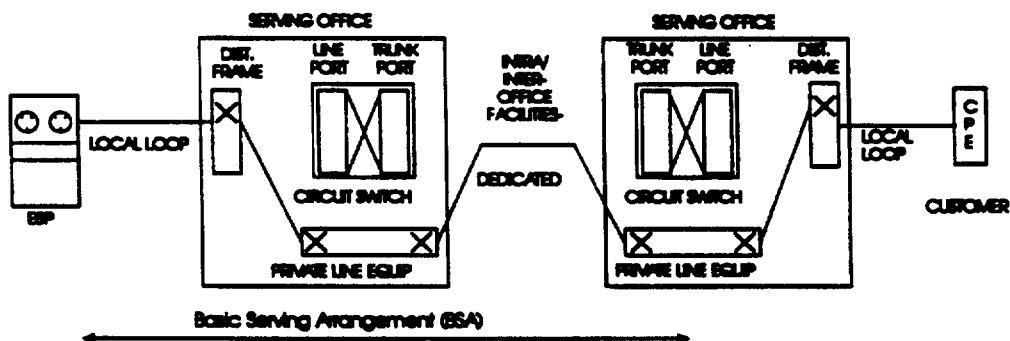
Route diversity may be available with this serving arrangement.

3.1 Category 3, Type C - Dedicated Voice Grade BSA

The dedicated voice grade BSA provides an ESP with a dedicated connection through the network to the ESP's client. This BSA is capable of supporting the transmission of analog signals within an approximate bandwidth of 300-3000 Hz. The transmission interface may be 2-wire or 4-wire. Voice grade services are provided between service provider designated premises through service wire centers or between a service provider designated premises and a telephone company hub. It is capable of providing various supervisory signaling alternatives.

Generic Name of BSA	GTE BSA Name
Category 3, Type C - Dedicated Voice Grade BSA	Voiceband

Dedicated - Private Line - BSA



Alternatives:

An alternative is an item that must be selected for the BSA to be technically meaningful. Alternative items may be available from some or all of the Local Exchange Carriers (LECs). Refer to the individual LEC tariff reference diskette for the reference information where LEC defined alternatives may be found. Examples of potential alternatives may be: transfer arrangement, improved termination, data capability, telephoto capability, and signaling capabilities.

Signaling:

Signaling capability provides for the process by which one customer premises alerts another customer premises on the same service with which it wishes to communicate. These signals are the means by which the end user initiates a request for service, holds a connection or releases a connection. Examples of signaling arrangements are: loop-start, ground-start, E&M, and reverse-battery.

Transmission:

The subject of transmission covers a broad range of performance considerations related to the physical facilities that compose network architecture. Transmission parameters are designed to provide objective transmission performance characteristics, as perceived by the end user and LEC, between the point of termination. Transmission parameters are defined for each Network Interface (see below) supporting this BSA. These parameters are defined in the reference documentation.

Network Interfaces:

The electrical and physical interface with the LEC is described by a Network Channel Interface (NCI) code for each end user termination and each service provider termination. NCI codes are provided to aid the user in understanding the relationship of the network interface to the electrical or optical characteristics of the interface. NCI codes have four basic components: (1) number of conductors (wire or fibers), (2) protocol code, (3) nominal reference impedance code, and (4) any applicable protocol options.

References:

- o TR-NWT-000335 Voice Grade Special Access Services - Transmission Parameter Limits and Interface Combinations, Issue 3, May 1993
- o TR-TSY-000965 IntraLATA Voice Grade Private Line Services Transmission Parameter Limits and Interface Combinations, Issue 1 - October 1989, Revision 1 - December 1989
- o TR-INS-000342 High-Capacity Digital Special Access Service - Transmission Parameter Limits and Interface Combinations, Issue 1, February 1991.

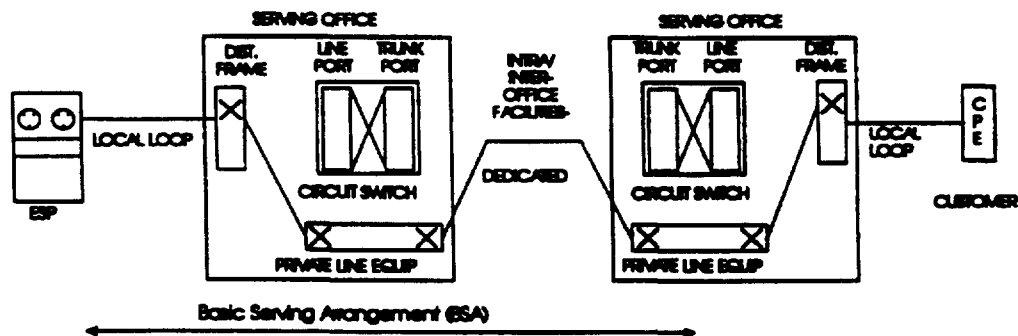
3.2 Category 3, Type D - Dedicated Program Audio BSA

Service Description:

The dedicated program audio BSA provides an ESP with a one-way non-switched channel to the ESP's client that can pass an analog signal up to 15000 Hz. This serving arrangement is usually provided for transmission of music, but it is capable of voice and data within the band pass limits. Nominal frequency bandwidths for this serving arrangement are: 50 to 15000 Hz, 200 to 3500 Hz, 100 to 5000 Hz, 300 to 2500 Hz, or 50 to 8000 Hz.

Generic Name of BSA	GTE BSA Name
Category 3, Type D - Dedicated Program Audio BSA	Program Audio

Dedicated - Private Line - BSA



Alternatives:

An alternative is an item that must be selected for the BSA to be technically meaningful. Alternative items may be available from some or all of the Local Exchange Carriers (LECs). Refer to the individual LEC tariff reference diskette for the reference information where LEC defined alternatives may be found. Examples of potential alternatives may be: stereo and gain conditioning.

Signaling:

Program Audio services are available full-time and therefore signaling arrangements are not applicable.

Transmission:

The subject of transmission covers a broad range of performance considerations related to the physical facilities that compose network architecture. Transmission parameters are designed to provide objective transmission performance characteristics, as perceived by the end user and LEC, between the point of termination. Transmission parameters are defined for each Network Interface (see below) supporting this BSA. These parameters are defined in the reference documentation.

Network Interfaces:

The electrical and physical interface with the LEC is described by a Network Channel Interface (NCI) code for each end user termination and each service provider termination. NCI codes are provided to aid the user in understanding the relationship of the network interface to the electrical or optical characteristics of the interface. NCI codes have four basic components: (1) number of conductors (wire or fibers), (2) protocol code, (3) nominal reference impedance code, and (4) any applicable protocol options.

References:

- o TR-NPL-000337 Program Audio Special Access and Local Channel Services, Issue 1, July 1987
- o TR-TSY-000431 15 kHz Digital Audio Terminal for Program or Television Requirements and Objectives, Issue 1, October 1987
- o TR-INS-000342 High-Capacity Digital Access Service - Transmission Parameter Limits and Interface Combinations, Issue 1, February 1991
- o TR-NPL-000339 Wideband Analog Special Access Service - Transmission Parameter Limits and Interface Combinations, Issue 1, October 1987